Haliburton Lake Public Beach Shoreline Naturalization Plan

Developed by the Haliburton Lake Cottagers Association in Partnership with Carey's Garden Centre

August 2015

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Introduction

The purpose of this plan is to identify native shrubs, grasses and perennials that could be planted along the shoreline of Haliburton Lake's Public Beach, owned by the municipality of Dysart et al, to form a buffer that would help prevent erosion and assist in filtering out and capturing pollutants caused from water runoff. This buffer would also provide and sustain a suitable environment for wildlife and aquatic species, and make the beach less attractive to nesting Canadian geese.

The buffer would extend the entire length of the beach which is approximately 368 feet long, and would have two openings, one 20 feet and one 15 feet wide, to allow access to and from the waters edge. The 15 feet opening, located on the west side of the beach, would also allow for the public dock to be pulled up and stored on the grass in the fall and winter.

The buffer would include assorted native shrubs, grasses and perennials planted in 2 offsetting rows. The shrubs will be planted in groups of 7 and the grasses/perennials in a groups of 5. The shrubs would be planted about 6 feet apart and the grasses/perennials planted about 3 feet apart. This would create a 12 foot vegetative buffer across the entire beach area. There will also be groups of shrubs and grasses/perennials planted in the two openings about 15 feet back from the buffer zone. This will allow people to access the opening from both sides.

Protective snow fencing will be required for the first two winters following when the buffer is planted to protect the shrubs and grasses/perennials.

The high water mark is visible right up to the mowed lawn in early spring and then recedes throughout the summer months leaving a large sandy beach. The water table is quite high in the spring so consideration must be given to selecting the proper shrubs and grasses/perennials that can adapt to the ever changing environment.

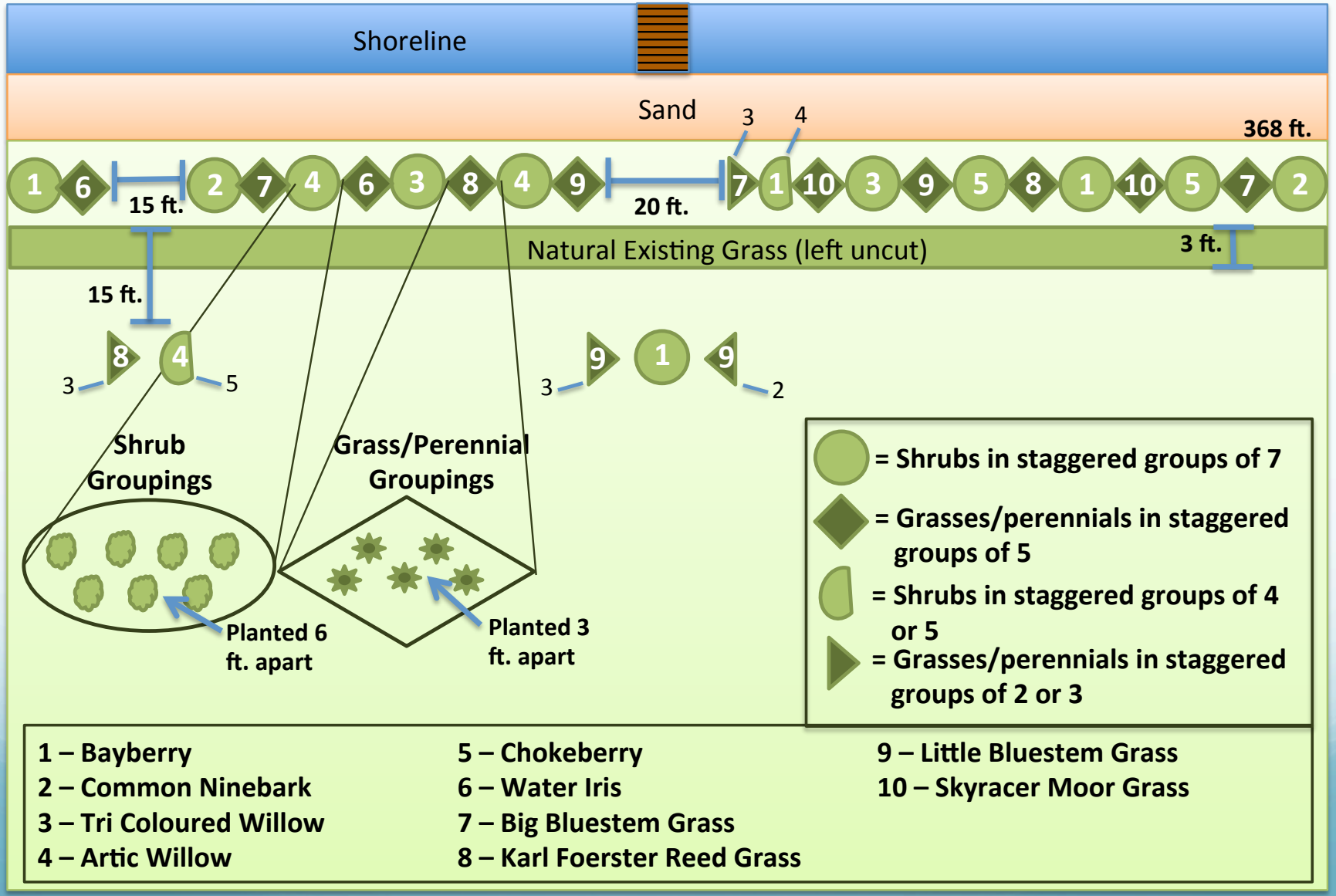
Land Characteristics

Shoreline Length	368 ft.
Shoreline Buffer Width	12 ft.
Shoreline Area	4,416 ft.^{2}
Soil Conditions	⅔ dry sandy soil, ⅓ moist sandy soil
Sun Conditions	Full sun
Water Table	High

Plant Selection

Plant Species	Quantity
Native Shrubs:	**79**
Arctic Willow	19
Bayberry	25
Chokeberry	14
Common Ninebark	14
Tri Colored Willow	14
Native Grasses/ Perennials:	**61**
Big Bluestem Grass	13
Karl Foerster Reed Grass	13
Little Bluestem Grass	15
Skyracer Moor Grass	10
Water Iris	10

Planting Design



Financial Investment Summary

Plant Species	Quantity	Cost/Item	Subtotal
Native Shrubs:			
Arctic Willow	19	$19.99	$379.81
Bayberry	25	$24.99	$624.75
Chokeberry	14	$24.99	$349.86
Common Ninebark	14	$24.99	$349.86
Tri Colored Willow	14	$24.99	$349.86
Native Grasses/Perennials:			
Big Bluestem Grass	13	$8.00	$104.00
Karl Foerster Reed Grass	13	$8.00	$104.00
Little Bluestem Grass	15	$8.00	$120.00
Skyracer Moor Grass	10	$8.00	$80.00
Water Iris	10	$8.00	$80.00
Materials:			
Bags of Triple Mix Soil	50	$3.99	$199.50
Protective Fence (400 ft)	1	$450.00	$450.00
Metal Fence Posts	0	$0.00 (borrow)	$0.00 (borrow)
Other Fees:			
Labour Charge	N/A	$0.00 (in kind)	$0.00 (in kind)
Shipping & Handling	N/A	$0.00 (in kind)	$0.00 (in kind)
Planting Plan	N/A	$0.00 (in kind)	$0.00 (in kind)
Total:			
		Subtotal	**$3,191.64**
		HST (13%)	**$414.91**
		Total Cost	**$3,606.55**

Plant Information

Plant Species	Height	Features
Arctic Willow	3-4 ft.	This shrub has bluish green foliage with purplish twigs in the winter. It grows in wet soil conditions, is great for soil erosion and is hardy to zone 2.
Bayberry	5-10 ft.	This shrub has dark green, waxy, fragrant leaves that have yellow dots on the underside. Small yellowish catkins appear in spring and bluish-white berries with strong aromatic scent appear in the summer. It tolerates dry to wet soil and drought conditions, and is hardy to zones 3-7.
Chokeberry	11 ft.	This native shrub has fragrant showy white flowers in elongated clusters in the spring, and purplish black pea-sized berries in the early fall. It tolerates dry conditions and is hardy to zone 3.
Common Ninebark (Dart's Gold)	3.5 ft.	This native shrub grows well in moist areas and has green leaves with white flowers in the spring. It is hardy to zone 4.
Tri Colored Willow	5 ft.	This fast growing shrub has leaves that start out pink in the spring then change to white in the summer. It grows in wet soil conditions and is hardy to zone 4.

Plant Information

Plant Species	Height	Features
Big Bluestem Grass	3-5 ft.	This grass has a bluish green colour with flowers that bloom in August through to September. It will grow in a variety of soil conditions including sandy and heavy. It is excellent for soil erosion, and is hardy to zone 4.
Karl Foerster Reed Grass	5 ft.	This medium sized clump forming grass likes sandy soil and is good for waterside planting. It is an early bloomer and hardy to zone 3.
Little Bluestem Grass	3 ft.	This grass is blue in colour, turning to red in the fall. It is a native prairie grass that grows in an upright clump form. It is excellent for erosion control and hardy to zone 3.
Skyracer Moor Grass	5 ft.	This medium sized clump forming grass has cascading green leaves with tall airy yellow flowers. It can tolerate wet soils and is hardy to zone 4.
Water Iris	2-3 ft.	This perennial grows in wet areas and has either yellow or blue flowers. It spreads rapidly and helps with erosion control. It is hardy to zone 4.

Cottager & Resident Engagement

The Haliburton Lake Cottagers Association (HLCA) has made efforts to actively communicate with cottagers and residents on an ongoing basis, regarding the shoreline naturalization plan and associated changes that will be occurring to the public beach.

Cottagers and residents have been receiving periodic emails from the HLCA regarding the plan and the upcoming volunteer planting day scheduled for the fall of 2015. Cottagers and residents were also provided an opportunity to learn more about the plan and ask questions about what they can do to improve the shoreline of their own property at the annual regatta, where a table was set up with an informative poster (see page 11) and sample plant species (see picture below).

Cottager & Resident Engagement

Haliburtonlake.com

PUBLIC BEACH – SHORELINE NATURALIZATION

The Haliburton Lake Cottagers' Association (HLCA) is initiating a shoreline naturalization project for the Public Beach, with funding support from the Coalition of Haliburton Property Owners' Association's (CHA) Shoreline Improvement Project.

Goal

The goal of the HLCA's shoreline naturalization project is to protect the shoreline of our Public Beach and improve the water quality of Haliburton Lake.

How

The HLCA's shoreline naturalization project involves planting a ribbon of native vegetation along the shoreline of the Public Beach. In addition, the naturally growing grasses and plants surrounding the shoreline will not be mowed, to encourage further growth.

The initial phase of planting is scheduled for the Fall of 2015, however we envision this to be a two to three year project.

Benefits

Restoring the natural vegetation along the shoreline will benefit the Public Beach and beach goers in the following ways:

- Protect water quality by reducing the contaminants that reach the lake
- Provide food and wildlife habitats for native species
- Deter Canada Geese from landing, feeding and defecating on the grass
- Reduce soil erosion
- Provide flood control and storm water management[1]

How It Works

Water Quality

A dense strip of native vegetation along the shoreline will provide an essential buffer to filter out the sediment, bacteria and pollutants often found in snow and rain runoff, before it reaches the water.[2]

Wildlife Habitats and Food

The plants that will make up the shoreline buffer will provide habitats for many species of birds. Furthermore the berries and flowers on these plants will provide an excellent food source for birds and butterflies.[2]

Canada Geese

Canada geese prefer wide-open grassy areas with high visibility to keep a lookout for predators. For this reason, planting a line of vegetation along the shoreline will interrupt the geese's line of sight, and block their access to grass and escape route to water, making the beach less appealing to them.[3]

Erosion

The roots of the planted vegetation will hold the shoreline soil together and protect it against waves, boat wakes and stormwater.[2]

Flood Control

The plants will slow the velocity of runoff water, allowing for more water uptake by the soil. This will help prevent flooding and will refill the groundwater supply at the beach.[2]

Beach Access and Visibility

The shoreline design will incorporate access points to the beach. These access points will have to be carefully designed to ensure Canada Geese do not see it as an access point to the grass. The ribbon of native vegetation will ultimately be up to six feet deep to function properly, and the height of this vegetation will purposely be kept as low as possible to permit line of sight to the lake.

Park Trees

As a part of the shoreline naturalization plan, additional young trees will be added to the Public Beach. These trees are replacements for the mature trees on the property, and will also create a visible barrier against the potential of Canada Geese landing in the open grassy areas.

For Your Own Cottage

If you are interested in naturalizing the shoreline at your own cottage, please read these tips below.

Native Planting

When selecting vegetation to plant along your shoreline, it is important to choose native species, such as these listed below:

- Sweet Gale/Bayberry
- Dogwood
- Highbush Cranberry
- Ninebark
- Pussy Willow
- Speckled Alder
- Sumac[4,5]

Less Frequent Lawn Mowing

By allowing your grass to grow long, natural occurring native plant species will also begin to grow. You can supplement this growth by spreading native wildflower seeds, available at garden stores.[6]

Reduce Shoreline Slope

Soften any hard, sloping surfaces on your shoreline to prevent soil erosion and slow runoff.[7]

Future Funding

Initial funding for this shoreline naturalization project has been given to the HLCA by the CHA and must be spent by November of 2015. The CHA provides grants, as part of their Shoreline Improvement Project, to a number of demonstration sites to showcase shoreline naturalization, aimed at improving lake water quality.[8] The Public Beach was chosen as one of these demonstration sites for the 2015 year. The HLCA will continue to seek additional funding sources to complete future phases of the work, including Dysart Municipality and augmented funding from the HLCA.

How To Get Involved

The HLCA will be organizing a volunteer planting day in the Fall 2015, a call will be put out for volunteers, so stay tuned!

1. Kawartha Conservation. On the Shoreline. Retrieved from: http://kawarthaconservation.com/stewardship/on-the-shore
2. The District of Muskoka Planning and Economic Development Department (2003). Shoreline Vegetative Buffers. Retrieved from: http://www.cohpoa.org/Muskoka%20Shoreline%20Vegetation%20Buffers.pdf
3. Environment Canada (2010). Canada and Cackling Geese: Management and Population Control in Southern Canada. Retrieved from: http://www.ec.gc.ca/nbc-com/6D28B93B-C671-41AF-8439-7139D5DB384C/Handbook_Canada_Cackling_Geese_ef11.pdf
4. Ontario Invasive Plant Council (2011). Grow Me Instead: Beautiful Non-Invasive Plants for your Garden. Retrieved from: http://cohpoa.org/Non-Invasive%20Plant%20Alternatives.pdf
5. Haliburton County Master Gardeners. Shoreline Restoration: Using Native Plants. Retrieved from: http://cohpoa.org/Native%20Trees,%20Shrubs%20and%20Plants%20for%20Shoreline.pdf
6. Muskoka Watershed Council (2013). Shoreline Vegetative Buffers. Retrieved from: http://www.muskokawatershed.org/wp-content/uploads/ShorelineVegetativeBuffers-Jan2013.pdf
7. Coalition of Haliburton Property Owners' Associations. Shoreline Resources. Retrieved from: http://cohpoa.org/Slope%20-%20how%20to%20amend.pdf
8. Coalition of Haliburton Property Owners' Associations. The Shoreline Improvement Project. Retrieved from: http://cohpoa.org/CHA%20Shoreline%20Project.htm